

REMARKS

The Office Action dated September 16, 2005, has been received and reviewed.

Claims 1-36 are currently pending and under consideration in the above-referenced application. Claims 1-36 stand rejected and Claims 20-22 have been objected to.

Reconsideration of the above-referenced application is respectfully requested.

Claim Amendment

The amendment to independent claim 1 has not been made in response to any of the rejections presented in the Office Action of September 16, 2005, and does not narrow the scope of claim 1 or of any of the claims that depends therefrom. Accordingly, the equivalents to the subject matter recited in independent claim 1 are not limited by the amendment thereto.

Supplemental Information Disclosure Statement

Please note that a Supplemental Information Disclosure Statement was filed in the above-referenced application on March 7, 2005, but that the undersigned attorney has not yet received any indication that the references cited in the Supplemental Information Disclosure Statement have been considered in the above-referenced application. It is respectfully requested that the references cited in the Supplemental Information Disclosure Statement of March 7, 2005, be considered and made of record in the above-referenced application and that an initialed copy of the Form PTO/SB/08A that accompanied that Supplemental Information Disclosure Statement be returned to the undersigned attorney as evidence of such consideration.

Allowable Subject Matter

The indication that claims 20-22 are directed to allowable subject matter is noted with appreciation. None of these claims has been amended to independent form, as the subject matter recited therein is believed to be allowable for the reasons set forth hereinafter.

Rejections under 35 U.S.C. § 112, Second Paragraph

Claims 1-30 have been rejected under 35 U.S.C. § 112, second paragraph, for allegedly lacking the essential elements of “a computer or a controller and an imaging device.”

M.P.E.P. § 2172.01, which relates to unclaimed essential subject matter, focuses on “missing elements, steps or necessary structural cooperative relationships of elements described by the applicant(s).” A determination of whether essential subject matter is missing from the claims must be made based upon “the invention as defined by applicant(s) in the specification.” *Id.*

The Office is kindly reminded that claims 1-30 are method claims and, by definition, need not be limited to or by a particular apparatus. Furthermore, the specification of the above-referenced application merely provides examples of how the claimed methods may be effected, without limiting their scopes. Nowhere does the specification of the above-referenced application require use of “a computer or a controller and an imaging device” to effect the claimed methods. Rather, the claims are intended, as the Examiner has adeptly pointed out, to include within their scopes use of “a pencil and paper or . . . the mind of a user” or other means for effecting the claimed methods.

Accordingly, it is respectfully submitted that independent claim 1 and claims 2-30 depending directly or indirectly therefrom comply with the definiteness requirement as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Rejections under 35 U.S.C. § 102

Claims 1-9, 23-28, 30-33 and 35 stand rejected under 35 U.S.C. § 102(e) for reciting subject matter which is purportedly anticipated by the subject matter described in U.S. Patent Application Publication 2004/0251242 of Suh (hereinafter “Suh”).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Without limiting the meaning of the term “calibrate,” one of ordinary skill in the art would understand that term, as used in the claims of the above-referenced application, to include corrections or adjustments made in response to a comparison with a standard. *See, e.g.*, American Heritage Dictionary of the English Language, Fourth Ed. (2000, Houghton Mifflin Co.).

Suh does not disclose calibration. Rather, the description of Suh is limited to optically evaluating the height of a molten pool of metal during a laser cladding process. When the pool reaches a desired height, cladding is terminated by turning off the laser and shutting off the flow of powdered material into the molten pool. Merely turning off a laser and terminating the flow of powdered material do not comprise “adjustments” to at least one component of a programmed material consolidation apparatus, particularly in a manner that will calibrate a programmed material consolidation apparatus. Therefore, Suh does not anticipate each and every element of independent claim 1, as would be required to maintain the 35 U.S.C. § 102(e) rejection of independent claim 1.

Each of claims 2-9, 23-28, and 30 is allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

Claim 6 is additionally allowable since Suh lacks any express or inherent description of adjusting at least one component of a programmable material consolidation apparatus by an amount of adjustment that has been determined in response to an evaluation of data obtained from viewing.

Claim 7 is further allowable because Suh does not expressly or inherently describe adjusting at least one component of a programmable material consolidation apparatus by a portion of an amount of adjustment that has been determined in response to an evaluation of data obtained from viewing.

Claim 23 is also allowable since Suh includes no express or inherent description of directing selectively consolidating energy toward a plurality of locations. Rather, the description of Suh is limited to directing a laser toward a surface of a solid substrate to generate a molten pool of material, or unconsolidate the substrate material, at that location. Melting is the opposite of consolidating.

Claim 30, which depends from claim 23, is additionally allowable since Suh neither expressly nor inherently describes “adjusting a material consolidation element . . . to increase a linearity of a path of consolidating energy . . .” While the cited description of Suh (paragraph [0080]) indicates that a substrate or laser beam may be moved, that portion of the description says nothing about the increasing the linearity with which such movement is effected.

Independent claim 31 recites a calibration system that includes a controller that may be programmed “to effect at least one calibration program that facilitates adjustment of at least one feature of [a] programmable material consolidation apparatus to calibrate the same.” While the optics of the system of Suh certainly communicate with a controller that shuts down the laser and the flow of metal powder as soon as a molten cladding pool reaches a prespecified height, Suh lacks any express or inherent description that the controller may be programmed to effect a calibration program that facilitates calibration of the laser or any other feature of the cladding system. Thus, Such does not anticipate each and every element of independent claim 31. As such, under 35 U.S.C. § 102(e), the subject recited in independent claim 31 is allowable over the subject matter disclosed in Suh.

Claims 32, 33, and 35 are each allowable, among other reasons, for depending directly or indirectly from claim 31, which is allowable.

Claim 35 is additionally allowable because Suh does not expressly or inherently describe a calibration system that includes a plurality of light-sensitive elements. Rather, each of Figs. 5, 7, 8, and 10 merely depicts a system including a single imager.

Withdrawal of the 35 U.S.C. § 102(e) rejections of claims 1-9, 23-28, 30-33 and 35 is respectfully solicited.

Rejections under 35 U.S.C. § 103(a)

Claims 10-19, 29, 34 and 36 stand rejected under 35 U.S.C. § 103(a).

The standard for establishing and maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Suh in View of Philippi

Claims 10-17, 19, 29, 34 and 36 stand rejected under 35 U.S.C. § 103(a) for being drawn to subject matter that is allegedly unpatentable over that taught in Suh, in view of teachings from U.S. Patent 6,483,596 to Philippi et al. (hereinafter "Philippi").

Claims 10-19 and 29 are each allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

Claims 34 and 36 are both allowable, among other reasons, for respectively depending indirectly and directly from claim 31, which is allowable.

Suh, Philippi, and Cohen

Claim 18 has been rejected under 35 U.S.C. § 103(a) for reciting subject matter that is assertedly unpatentable over the subject matter taught in Suh, in view of teachings from Philippi and, further, in view of the teachings of U.S. Patent 5,287,435 to Cohen et al. (hereinafter "Cohen").

Claim 18 is allowable, among other reasons, for depending indirectly from claim 1, which is allowable.

CONCLUSION

It is respectfully submitted that each of claims 1-36 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the

above-referenced application remain which might be resolved by way of a telephone conference,
the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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